

APPARATUS AND METHODS FOR DETECTING ERRORS IN DATA

ABSTRACT OF THE DISCLOSURE

5 Mechanisms and techniques allow a data storage system to detect errors in data received for storage within the data storage system. To do so, the data storage system receives, from an originator application operating on a server computer system, portions of data which comprise an application data block which is to be written to storage in the data storage system. In conjunction with the data received at the data storage system, the
10 data storage system also receives application error checking information which the originator application generates on the data within the application data block. The application error checking information may be, for example, checksum information embedded within one or more portions of the data which comprise the application data block. Upon receipt of the data and the application error checking information, the data storage system generates data storage error checking information on the data within all portions of data which comprise the application data block. The data storage system then compares the data storage error checking information against the application error checking information extracted from the portions of data to determine if an error exists in the data prior to storing a data in the data storage system. If an error exists, the data
15 storage system can signal the error back to the server computer system. In this manner, the data storage system can detect errors in real-time in data that the originator application attempts to write to storage within the data storage system prior to storing the data.
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